

**REMARKS**

Reconsideration of the present claims, in light of the above claim clarifications and the Remarks which follow, is respectfully requested.

Claims now before the Examiner are 4-13 and 40, claims 14-39 having been made subject to a Restriction Requirement and subsequently cancelled, and claims 1-3 and 6 having also been cancelled.

Applicants note that concurrent with this Paper, a Notice of Appeal and a Brief in support of Appeal are being filed. The purpose of this Paper is to put the claims in condition for Appeal

The numbering in this response will follow that of the Examiner's Action.

1. & 2. No response necessary.

**Rejections Under 35 USC § 112**

3. Applicants do not agree with the Examiner's restrictive interpretation of "cyclopentadienyl-type" stated in the Office Action dated May 2, 2003. Further, Applicants reject the Examiner's characterization of a lack of definition of "other similar functioning ligand structure(s)".

Applicants have pointed out:

i) that the Specification provides the person of skill in the art ample disclosure to structures other than the restrictive interpretation "cyclopentadienyl-type ... is deemed to be a ligand which includes in its structure an anionic aromatic C<sub>5</sub> core ..." as stated by the Examiner.

To wit: at page 4, line 22, starting with cyclooctatetraenediyl ligands and ending on line 26. Further at page 4, line 36 c/o page 5, line 25, substitutions which can be made on the ligands are clearly delineated;

ii) that the Examiner's own reference to Hawley's Chemical Dictionary contemplates other ligand types.

To wit: Hawley's, as pointed out in the Interview of April 23, 2002, lists among other references "... See ... uranocene." Applicants have provided 2 references to

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support their position that those of skill in the art will understand the terminology used in the present Specification. These references include JACS Dec. 18, 1968, where the authors discuss the mass spectra of uranocenes and conclude "This mass spectrum is completely consistent with an assigned sandwich-complex structure of the ferrocene type with a planar eight-membered rings above and below a central uranium atom in a  $D_{8d}$  or  $D_{8h}$  arrangement." This reference identifies uranocene (See the title "Bis(cyclooctatetraenyl)uranium (Uranocene) ...") and shows that metallocene-type compounds are not restricted to cyclopentadienyl ligands or those having a  $C_5$  core. There is also a mixed ligand example in Kroon, et al., JOMC, 1970, 25, 451-454 (See p. 452, second paragraph, second sentence.) "The Ti atom is 'sandwiched' between the cyclopentadiene and the cyclooctatetraene groups which are both planar within the experimental error."

iii) Other references provide support for additional ligand types. In Britovsek, et. Al., Angew. Chem. Int. Ed., 1999, 38, 428-447 (See p. 440, the paragraph just above section 6.) "Replacement of both Cp groups of a Group 4 metallocene with isolobal, dianionic imido ligands enables high-valent chromium (VI) compounds with metallocene-like characteristics to be accessed." Also, in Gleiter, et. Al., Organometallics, 1989, 8, 298-306 (See the title description "Half-Open Metallocenes" (i.e. metallocenes containing open pentadienyl ligands). Also, the first sentence of the body at the bottom of p. 298. "Recently, the physical and theoretical natures of pentadienyl groups, and their metal complexes, have been of interest, especially relative to their better known cyclopentadienyl counterparts." Also, note the comparative drawings on p. 299 showing the structural relationship between cyclopentadiene and pentadiene ligands and the various combinations that can be observed. There is clear evidence that "metallocene-type" compounds can be composed of "bulky ligands" such as cyclooctatetraenyl, imido, and pentadienyl ligands.

iv) Additional language was added in a previous response to support the use of the term "bulky ligands" so this issue has already been addressed.

When coupled to Applicants' statement that their claims are to be interpreted in light of the complete disclosure and especially in light of paragraphs [011] - [030], Applicants believe they have discharged their duty that the claims particularly point out that which Applicants regard as their invention.

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Accordingly, Applicants respectfully request that the Examiner withdraw his restrictive description of the term "cyclopentadienyl-type".

**Rejections Under 35 USC § 103**

*4. & 5. Claims 4, 5, and 7-12 stand rejected under 35 USC § 103 (a) as obvious over US 5,491,205 (Langhauser, et al.).*

Applicants have amended the claim to include the terminology "wherein the 2 R's are joined ...". Such terminology excludes the spiro compounds of Langhauser.

Applicants respectfully request withdrawal of the obviousness Rejection over Langhauser.

*6. Claims 4, 5 and 7 stand rejected under 35 USC § 103 (a) as obvious over "Organometallics" 1994 (Chen, et al.) in view of U.S. 5,532,396 (Winter I, et al.) or U.S. 6,057,408 (Winter II, et al.).*

Chen suggests at page 749 second column, above "acknowledgements", "unfortunately it [the catalyst compound] is unstable above 50° C and its performance as a catalyst under manufacturing conditions cannot be assessed."

Lack of stability in a temperature region where polymers are generally made, serves as an antimotivational signpost for the skilled person to do any further work with the catalysts of Chen. Applicants are claiming "A catalyst system for polymerizing ethylene alone or in combination with one or more olefin(s), ...", so the skilled person, represented by the inventors, would not be motivated to use Chen for arriving at the presently claimed invention.

Furthermore, the motivation to combine must flow from the references themselves, or from extrinsic evidence. Chen's statement about Chen's compound being unstable would not motivate the skilled person to add a support unless adding a support would change or improve the tendency towards instability. There is no evidence of record, in any of the references showing that supported catalysts of the Chen type have or show improved stability compared to their unsupported counterparts. If such evidence exists, Applicants respectfully request that it be made a part of the record.

In fact, the Examiner states that the motivation to combine a support with Chen's disclosure because "... for obtaining established benefits, including improved activity,

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facilitation of pre-polymerization, etc. " missing from this analysis of support benefits is the type of evidence discussed above, that being a showing that supported catalysts of the Chen type show improved stability on supports. Additionally, absent evidence of improved stability for such catalysts via use of supports, the skilled person would have to conclude that what one now has, with the combination suggested by the Examiner, is an unstable catalyst on a support.

Absent the motivation to combine, or absent evidence as requested, no obviousness exists with this combination of references.

Withdrawal of the Rejection is respectfully requested.

7. Claims 4, 5, and 7-12 and 40 stand rejected under 35 USC § 103 (a) as obvious over Winter I.

Applicants respectfully point out that in Winter's examples 26 and 28, as noted by the Examiner, while exemplifying germanium, do not contain a cyclic bridge nor are they supported. Absent a cyclic bridge or support, the list of "Ms" and "Rs" at Col. 3, lines 56-63, and the list of supports at Col. 11, lines 45-53, pointed to by the Examiner, together with Winter's examples 26 and 28, constitutes at best, an impermissible "obvious to try" Rejection. Further, there must be some motivation in Winter to incorporate all three elements, and no such motivation, save for what Applicants consider "obvious to try", has been elucidated by the Examiner.

Absent any motivation to combine the elements outlined by the Examiner, save for that provided by Applicants' claims, the Rejection fails and withdrawal of the Rejection is respectfully requested.

8. & 9. No response necessary.

All of the Examiner's Rejections and Objections have been addressed.

The claims are in condition for allowance.

Note is made that correspondence should be sent to:

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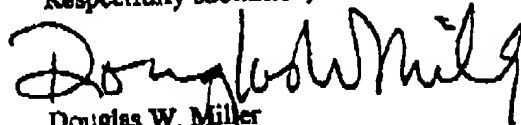
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Respectfully submitted,



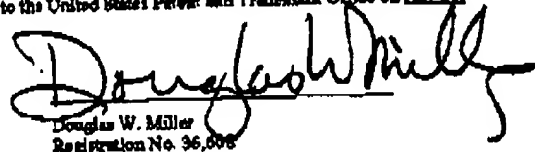
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